



## DECLARATION 1

### DECLARATION

I, Tomoko TODAKA, c/o the Inoue & Associates of 3rd Floor, Akasaka Habitation Building, 3-5, Akasaka 1-chome, Minato-ku, Tokyo, Japan do solemnly and sincerely declare that I am conversant with the Japanese and English languages and that I believe:

that the description "organic porous material (c)" at page 25, line 15 of the present specification should be amended to --inorganic porous material (c)--;

that the description "a cycloalkylene group or a bicycloalkylene group" at page 39, line 20 of the present specification should be amended to --a cycloalkene group or a bicycloalkene group--;

that the description "a nozzle of a die" at page 73, line 9 of the present specification should be amended to --a nozzle or a die--; and

that the term "buthoxy ethylene glycol methacrylate" in Table 2 at page 119 of the present specification should be amended to --butoxy diethylene glycol methacrylate--.

These amendments are merely corrections of inadvertent errors which occurred at the time of the translation into English of the original PCT specification. The attached cop-

ies of revised pages 25, 39, 73 and 119 of the English specification are true and correct translations of the corresponding pages of the international patent application No.

PCT/JP03/08027. The English description "inorganic porous material (c)" in the revised page 25, line 15 of the English specification is a correct English translation of the Japanese description "無機多孔質体 (C)" in the original Japanese PCT specification at page 17, line 11. The English description "a cycloalkene group or a bicycloalkene group" in the revised page 39, lines 20 to 21 of the English specification is a correct English translation of the Japanese description "シクロアルケン-、ビシクロアルケン-" in the original Japanese PCT specification at page 25, line 15. The English description "a nozzle or a die" in the revised page 73, line 9 of the English specification is a correct English translation of the Japanese description "ノズルやダイス" in the original Japanese PCT specification at page 46, lines 8 to 9. The English description "butoxy diethylene glycol methacrylate" in the revised page 119, Table 2 of the English specification is a correct English translation of the Japanese description "ブトキシジエチレングリコールメタクリレート" in the original Japanese PCT specification at page 77, Table 2.

I declare that all statements made herein of my own

knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

June 17, 2005  
(Date)

Tomoko Todaka  
Tomoko TODAKA

there can be mentioned styrene thermoplastic elastomers, such as SBS (polystyrene-polybutadiene-polystyrene), SIS (polystyrene-polyisoprene-polystyrene) and SEBS (polystyrene-polyethylene/polybutylene-polystyrene);

5 olefin thermoplastic elastomers; urethane thermoplastic elastomers; ester thermoplastic elastomers; amide thermoplastic elastomers; and silicone thermoplastic elastomers. Alternatively, for improving the heat decomposability of resin (a), use can be made of a polymer which is obtained by introducing a readily decom-

10 posable functional group, such as a carbamoyl group or a carbonate group, into the molecular skeleton of the polymer. A thermoplastic elastomer can be fluidized by heating and, thus, the fluidized thermoplastic elastomer can be easily mixed with inorganic porous material

15 (c) used in the present invention. In the present invention, the term "thermoplastic elastomer" means a polymer which has the ability to easily flow by heating and be easily processed into various shapes as in the case of other thermoplastic resins, and which shows

20 rubber elasticity at room temperature. A thermoplastic elastomer contains a soft segment and a hard segment in the molecular structure thereof. The soft segment is formed by a polyether, a rubbery polymer or the like,

25 and the hard segment is formed by a material which does

olefins, such as ethylene, propylene, styrene and divinylbenzene; acetylene type compounds; (meth)acrylic acid and derivatives thereof; haloolefins; unsaturated nitriles, such as acrylonitrile; (meth)acrylamide and derivatives thereof; allyl compounds, such as allyl alcohol and allyl isocyanate; unsaturated dicarboxylic acids (such as maleic anhydride, maleic acid and fumaric acid) and derivatives thereof; vinyl acetate; N-vinylpyrrolidone; and N-vinylcarbazole. From the viewpoint of various advantages of products, such as availability, reasonable price and decomposability by laser beam irradiation, (meth)acrylic acid and derivatives thereof are preferred. The above-mentioned compounds (b) can be used individually or in combination depending on the use of the photosensitive resin composition.

Examples of derivatives of the compounds mentioned above as compound (b) include compounds having an alicyclic group, such as a cycloalkyl group, a bicycloalkyl group, a cycloalkene group or a bicycloalkene group; compounds having an aromatic group, such as a benzyl group, a phenyl group, a phenoxy group or a fluorenyl group; compounds having a group, such as an alkyl group, a halogenated alkyl group, an alkoxyalkyl group, a hydroxyalkyl group, an aminoalkyl group, a

crosslink-curing the photosensitive resin composition by light or electron beam irradiation.

With respect to the method for shaping the photosensitive resin composition of the present invention into a sheet or cylinder, any of conventional methods employed for shaping resins can be employed. For example, there can be mentioned an injection molding method; a method in which a resin is extruded from a nozzle or a die by using a pump or extruder, followed by adjustment of the thickness of the extruded resin using a blade; a method in which a resin is subjected to calendar processing using a roll, thereby obtaining a resin sheet having a desired thickness; and a coating method. During the shaping of the resin composition, the resin composition can be heated at a temperature which does not cause the lowering of the properties of the resin. Further, if desired, the shaped resin composition may be subjected to a treatment using a pressure roll or an abrasion treatment. In general, the resin composition is shaped on an underlay called "back film" which is made of PET (polyethylene terephthalate), nickel or the like. Alternatively, the resin composition can be shaped directly on a cylinder of a printing machine.

When the photosensitive resin composition contains

Table 2

Abbreviations used in Table 1	Nomenclature	Number average molecular weight <sup>*1</sup>	Number of polymerizable unsaturated group per molecule <sup>*2</sup>
LMA	lauryl methacrylate	254	1
PPMA	polypropylene glycol monomethacrylate	400	1
DEEHEA	diethylene glycol-2-ethylhexylmethyl acrylate	286	1
TEGDMA	tetraethylene glycol dimethacrylate	330	2
TMPTMA	trimethylol propane trimethacrylate	339	3
BZMA	benzyl methacrylate	176	1
CHMA	cyclohexyl methacrylate	167	1
BDEGMA	butoxy diethylene glycol methacrylate	230	1
PEMA	phenoxyethyl methacrylate	206	1

\*1: When organic compound (b) was analyzed by GPC, the chromatogram showed a single peak having a polydispersibility of less than 1.1. Accordingly, the number average molecular weight was determined by mass spectrometric analysis.

\*2: Value obtained by NMR.

SBS（ポリスチレンーポリブタジエンーポリスチレン）、  
SIS（ポリスチレンーポリイソプレンーポリスチレン）、  
SEBS（ポリスチレンーポリエチレン／ポリブチレンーポリスチレン）等、オレフィン系熱可塑性エラストマー、ウレタン系熱可塑性エラストマー、エステル系熱可塑性エラストマー、アミド系熱可塑性エラストマー、シリコーン系熱可塑性エラストマー等を挙げることができる。より熱分解性を向上させるために、分子骨格中に分解性の高いカルバモイル基、カーボネート基等の易分解性官能基を主鎖に導入したポリマーを用いることもできる。熱可塑性エラストマーは加熱することにより流動化するため、本発明の無機多孔質体（c）と混合することが可能となる。熱可塑性エラストマーとは、加熱することにより流動し通常の熱可塑性プラスチック同様成形加工ができ、常温ではゴム弾性を示す材料である。分子構造としては、ポリエーテルあるいはゴム分子のようなソフトセグメントと、常温付近では加硫ゴムと同じく塑性変形を防止するハードセグメントからなり、ハードセグメントとしては凍結相、結晶相、水素結合、イオン架橋など種々のタイプが存在する。

熱可塑性エラストマーの種類は印刷版の用途によって選択することができる。例えば、耐溶剤性が要求される分野では、ウレタン系、エステル系、アミド系、フッ素系熱可塑性エラストマーが好ましく、耐熱性が要求される分野では、ウレタ



MRで求めた値である。

有機化合物（b）の具体例としては例えば、エチレン、プロピレン、スチレン、ジビニルベンゼン等のオレフィン類；アセチレン類；（メタ）アクリル酸及びその誘導体；ハロオレフィン類；アクリロニトリル等の不飽和ニトリル類；（メタ）アクリルアミド及びその誘導体；アリルアルコール、アリルイソシアネート等のアリル化合物；無水マレイン酸、マレイン酸、フマル酸等の不飽和ジカルボン酸及びその誘導体；酢酸ビニル類；N-ビニルピロリドン；N-ビニルカルバゾール等が挙げられる。種類の豊富さ、価格、レーザー光照射時の分解性等の観点から（メタ）アクリル酸及びその誘導体が好ましい。感光性樹脂組成物の用途に応じて、1種又は2種以上の有機化合物（b）を用いることができる。

前記化合物の誘導体の例としては、シクロアルキル-、ビスシクロアルキル-、シクロアルケン-、ビスシクロアルケン-などの脂環式の骨格を有する化合物；ベンジル-、フェニル-、フェノキシ-、フルオレン-などの芳香族の骨格を有する化合物；アルキル-、ハロゲン化アルキル-、アルコキシアルキル-、ヒドロキシアルキル-、アミノアルキル-、テトラヒドロフルフリル-、アリル-、グリシジル-、アルキレングリコール-、ポリオキシアルキレングリコール-、（アルキル／アリルオキシ）ポリアルキレングリコール-やトリメチロールプロパン等の多価アルコールのエステルなど

細孔径分布、比表面積の測定から同定することができる。

更に本発明のレーザー彫刻可能な印刷原版は、上述した本発明の感光性樹脂組成物をシート状又は円筒状に成形し、そして成型した感光性樹脂組成物を光または電子線の照射により架橋硬化せしめることを包含する方法で得られるものである。

本発明の樹脂組成物をシート状又は円筒状に成形する方法としては、既存の樹脂の成形方法を用いることができる。例えば、注型法；ポンプや押し出し機等の機械で樹脂をノズルやダイスから押し出し、ブレードで厚みを合わせる方法；ロールによりカレンダー加工して厚みを合わせる方法、塗布法等が例示できる。その際、樹脂の性能を落とさない範囲で加熱しながら成形を行なうことも可能である。また、必要に応じて圧延処理、研削処理などを施しても良い。通常は、PET（ポリエチレンテレフタレート）やニッケルなどの素材からなるバックフィルムといわれる下敷きの上に樹脂組成物を成形するが、印刷機のシリンダー上に直接成形することもできる。

感光性樹脂組成物に溶媒が含まれる場合には、成形後に溶媒を除去する必要がある。溶媒の除去は、通常は溶剤の沸点よりも少なくとも20℃は低い温度に加熱して風乾で行うことが好ましい。例えば塗布法で感光性樹脂組成物を成形した場合には、感光性樹脂組成物を一度に厚く塗布してしまうと、溶剤の除去が困難になるので、何回かに分けて塗布・乾燥を